

Processor Sets Product Note

HP-UX Servers and Workstations

First Edition



Manufacturing Part Number: 5969-4311

September 2001

United States

© Copyright 2001 Hewlett-Packard Company. All rights reserved.

Legal Notices

The information in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Warranty

A copy of the specific warranty terms applicable to your Hewlett-Packard product and replacement parts can be obtained from your local Sales and Service Office.

Restricted Rights Legend

Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 for DOD agencies, and subparagraphs (c) (1) and (c) (2) of the Commercial Computer Software Restricted Rights clause at FAR 52.227-19 for other agencies.

HEWLETT-PACKARD COMPANY
3000 Hanover Street
Palo Alto, California 94304 U.S.A.

Use of this manual and flexible disk(s) or tape cartridge(s) supplied for this pack is restricted to this product only. Additional copies of the programs may be made for security and back-up purposes only. Resale of the programs, in their present form or with alterations, is expressly prohibited.

Copyright Notices

Copyright © 2001 Hewlett-Packard Company. All rights reserved. Reproduction, adaptation, or translation of this document without prior written permission is prohibited, except as allowed under the copyright laws.

Copyright © 1979, 1980, 1983, 1985-93 Regents of the University of California. This software is based in part on the Fourth Berkeley Software Distribution under license from the Regents of the University of California.

Copyright © 1988 Carnegie Mellon University
Copyright © 1990-1995 Cornell University
Copyright © 1986 Digital Equipment Corporation.
Copyright © 1997 Isogon Corporation
Copyright © 1985, 1986, 1988 Massachusetts Institute of Technology.
Copyright © 1991-1997 Mentat, Inc.
Copyright © 1996 Morning Star Technologies, Inc.
Copyright © 1990 Motorola, Inc.
Copyright © 1980, 1984, 1986 Novell, Inc.
Copyright © 1989-1993 The Open Software Foundation, Inc.
Copyright © 1996 Progressive Systems, Inc.
Copyright © 1989-1991 The University of Maryland
Copyright © 1986-1992 Sun Microsystems, Inc.

Trademark Notices

UNIX® is a registered trademark in the United States and other countries, licensed exclusively through The Open Group.

Publication History

The manual publication date and part number indicate its current edition. The publication date will change when a new edition is released. The manual part number will change when extensive changes are made.

To ensure that you receive the new editions, you should subscribe to the appropriate product support service. See your HP sales representative for details.

- First Edition: September 2001, 5969-4311, (HP-UX 11i)
Web only (<http://docs.hp.com>)

What are Processor Sets?

HP-UX Processor Sets offer a flexible mechanism for managing system processor resources among multiple workloads, users, and departments within an enterprise.

A processor set represents a set of processors grouped together for exclusive access to applications assigned to that processor set. Each application is assigned to a processor set and will run only on processors in the assigned processor set.

Processor sets allow partitioning of the system into multiple Scheduling Allocation Domains, such that workloads running in different processor sets do not contend with one another for system processor resources. This capability makes server consolidation on large systems more efficient.

Resource management based on processor sets is completely hardware platform independent and can be used on any HP-UX 11i multiprocessor system.

Processor sets are integrated with HP-UX Process Resource Manager. A PRM group can now be mapped to a processor set for processor resources rather than processor shares. Please see the *HP Process Resource Manager User's Guide* for further information.

NOTE

Any application that programatically uses the processor sets system call interfaces must be compiled with the header files installed with the Processor Sets product.

NOTE

In MeasureWare on HP-UX, currently the PRM_SYS group returns invalid data when multiple processor sets are enabled. There is no workaround at this time.

Where to Find Information

For detailed information about the Processor Sets feature see the following documentation:

- The Processor Sets Manual Pages:

— <i>pset_create</i> (2)	— <i>pset_getattr</i> (2)
— <i>pset_assign</i> (2)	— <i>pset_setattr</i> (2)
— <i>pset_bind</i> (2)	— <i>psrset</i> (1M)
— <i>pset_destroy</i> (2)	— <i>pstat_getpset</i> (2)
— <i>pset_ctl</i> (2)	— <i>pthread_pset_bind_up</i> (3T)

- The Processor Sets documentation at the HP Documentation web site at:

<http://docs.hp.com/hpux/11i/index.html%20ProcessorSets>

- The *HP Process Resource Manager User's Guide* available on the September 2001 HP-UX 11i Instant Information CD and on the web at:

<http://docs.hp.com>

- <http://www.hp.com/go/hpux>

Installing Processor Sets

Installing From the Software Pack CD-ROM

Step 1. Log in as `root`.

Step 2. Mount the CD drive to the desired directory. The following example uses the `/cdrom` directory (you can find the CD drive device file by using the `ioscan -fnC disk` command):

```
# mount -r /dev/dsk/clt2d0 /cdrom
```

Step 3. Use **SD** to install the `PROCSETS` bundle from the CD. Note that because Processor Sets pulls in a set of kernel patches, the `autoreboot` flag must be specified. The system will reboot after installation:

```
# swinstall -x autoreboot=true -s /cdrom/PROSETS PROCSETS
```

When you install the `PROCSETS` bundle, the following items will be included:

- kernel extensions for the Processor Sets product
- enhancement kernel patches to support the Processor Sets kernel extensions
- other critical kernel patches
- new `psrset` command (see the *psrset (1M)* manpage)
- enhancement patches for some existing commands
- enhancement patch for the `pthread` library
- Processor Sets manual pages

Installing From Software Depot

Step 1. Go to HP's Software Depot (<http://software.hp.com>).

Step 2. Select Enhancement Releases.

Step 3. Select HP-UX Software Pack.

Step 4. Follow the instructions to download and install Processor Sets.

Removing Processor Sets

To remove the Processor Sets product, use `swremove` command:

```
# swremove -x autoreboot=true ProcessorSets
```

This will remove the product and reboot your system, leaving the bundle wrapper and kernel patches on your system. The kernel patches that were included with the product bundle are recommended for your system. Therefore, we advise that you do not remove them.

For more information on managing patches on your system, see *HP-UX Patch Management*, part number 5967-3578. This document is available on the Support Plus media as well as on the Hewlett-Packard documentation web site (<http://docs.hp.com.com/hpux/pdf/5967-3578.pdf>).

